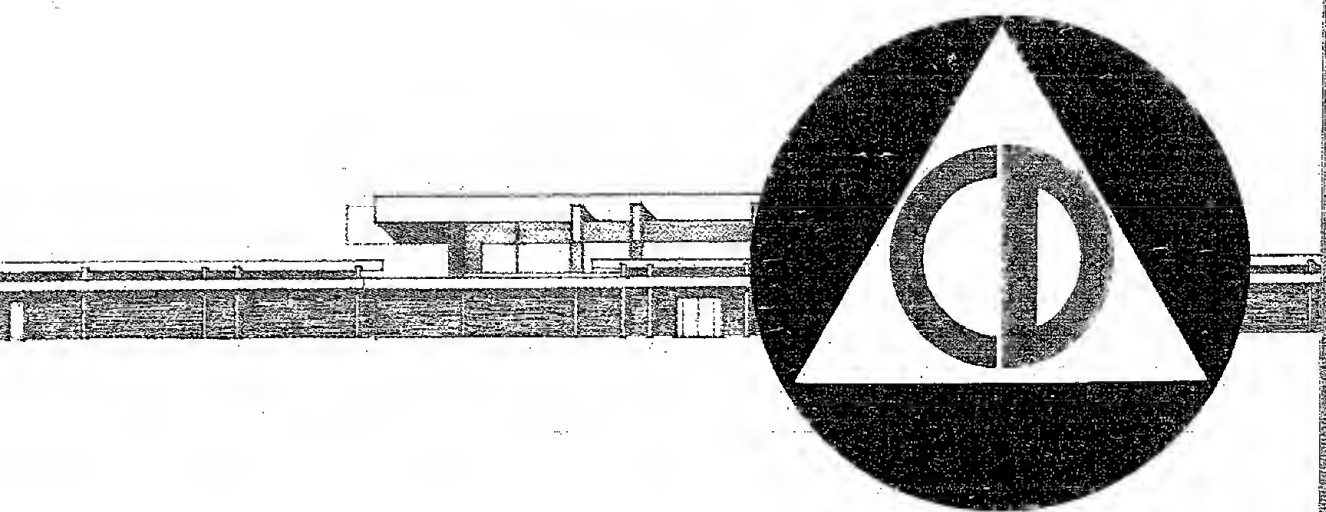


MP-35

JUNE 1966

# CURRENT STATUS of CIVIL DEFENSE in SCHOOLS



*With Guidelines for Action*

**CURRENT STATUS OF  
CIVIL DEFENSE IN SCHOOLS  
WITH GUIDELINES FOR ACTION**

Produced by  
NATIONAL COMMISSION ON SAFETY EDUCATION  
of the  
NATIONAL EDUCATION ASSOCIATION  
1201 Sixteenth Street NW., Washington, D.C. 20036

In cooperation with the  
OFFICE OF CIVIL DEFENSE  
DEPARTMENT OF DEFENSE  
Washington, D.C. 20310

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## FOREWORD

FOR more than 15 years the National Commission on Safety Education of the National Education Association has been actively interested in helping the Nation's schools teach children the principles and practices of preparedness for both natural and man-made disasters.

During this period, some of our schools have developed and conducted civil defense programs. Some proportion of these programs has been devoted totally to protection against specific, locally probable, natural disasters. Other programs have included provision for protection in both natural and man-made disasters. Still others have stressed protection alone and some have included pertinent subject matter in the regular curriculum. No doubt some programs have been kept active and up to date. Equally probable, some have not. No one has really known the nature and extent of school activity in civil defense throughout the United States.

Therefore, at the request of the Office of Civil Defense of the Department of Defense in mid-1964, the National Commission on Safety Education of the National Education Association undertook a comprehensive study to determine the status of civil defense in the Nation's schools and to provide guidelines for appropriate action.

First, the character and scope of school involvement in civil defense preparedness were determined through responses to a nationwide questionnaire survey conducted among representative samples of school systems of different sizes. The questionnaire was designed by the NEA Research Division and incorporated items suggested by a project advisory committee of ten educators. The NEA Research Division also carried out the survey and tabulated the results.

Second, the project writer personally visited ten school systems selected on the bases of experience in development of civil defense programs and representativeness of various enrollment strata and geographical areas. School civil defense activities were discussed in detail with the administrators whose experience and recommendations contributed to this publication. As a supplemental step, three items on school civil defense were included in an extensive poll addressed to a representative sample comprising some 20,000 teachers. Information from the site visits, together with data from the questionnaire survey and the responses to the teacher poll, provided much of the substance from which the guidelines herein are derived.

It is hoped that this report will not only interest school personnel but that it will cause them to assess what they are now doing in civil defense to discharge

the responsibility of the school for protecting its pupils, and then to apply the guidelines herein as a means of improving present programs.

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## CIVIL DEFENSE IN SCHOOLS

### A FRANK MESSAGE TO THE SCHOOLMAN

World events and the advances of science have brought about many very obvious changes in our thinking and in our way of life. No island is so isolated that even one man living on it alone can be sure he will be unaffected by tomorrow's happenings in the world beyond. Far less, of course, can any citizen of a nation at the hub of world events isolate himself from the effects of those events and the advance of science, and from their inevitable partner: *change*.

Changes in our way of life bring about changes in education, even as—more subtly—advances in education better our way of life. The educator cannot be one who exists in a cloistered world, unconscious of current events in the real world. Rather, the educator must lead in recognition of change, and anticipate it to the fullest degree if he is to prepare the young for the world in which they will live, and the schools for their role in that mission.

A vital area in which change threatens his young charges is that of major disasters—natural and manmade. Too, it threatens to immerse *him* in a greatly enlarged and rather fearsome universe of responsibility. At any moment it is within the realm of possibility that the school administrator will have to make immediate decisions which may mean life or death to his pupils and staff. The cogent questions the conscientious schoolman must ask of himself today are, "Am I equipped to make such decisions?" and "Are we, all of us here in my charge, ready to carry them out?"

A recent comprehensive study by two units of the National Education Association (the Research Division and the National Commission on Safety Education) yields the only possible answer to those two questions as far as the public schools of the Nation are concerned.

The answer is, "NO!" According to responses representative of all school superintendents in the United States, the great majority of our children have no reasonable protection from the effects of major disasters—natural or manmade.

This does not mean that such protection is not attainable. It does not mean that it is beyond our reach in terms of resources or cost. Much is available *at little or no cost*. With thoughtful planning, substantial steps can be taken to provide protection in newly constructed buildings at justifiable cost. But it is disheartening to learn, from the most reliable data we possess today, that with the building of each one of the thousands of new schools throughout the country another group—usually a larger group—of children is being placed in completely unnecessary, and possibly deadly, danger.

The thought occurs to the layman—and possibly at times to the civil defense expert—“Why doesn’t the government **make** them . . .?”

We, in education, know the answer, of course. The *autonomy of education* is one of our greatest safeguards of liberty. The *power* to dictate to the schools of a nation soon dictates the *thinking* of that nation. A Hitler youth group leads to a Nazi Party. We don’t want to exchange one peril for another. We don’t welcome directives, but we do seek *knowledge*.

Deep in our professional philosophy is a belief in being informed—*knowing the truth* about all forces and circumstances that affect our areas of responsibility. Two basic facts we should know about civil defense are:

1. In a time of nuclear disaster, if such should come, the Federal Government would be a source of guidance and assistance to State and local governments in civil defense matters which are normally functions intrinsic to State and local governments. Education, however, must *now* exercise its autonomous authority also, in preparation for possible disasters affecting the school population. School boards and administrators must work in cooperation with other units of local government under existing community plans to achieve a state of readiness.
2. Local government officials, including civil defense directors, share responsibility with school administrators, but the latter have a basic responsibility for obtaining the facts about civil defense, and for using them in behalf of the physical safety—the very lives—of the children in their care.

## WHAT CAN YOU BELIEVE

The man who would sell you a car, or an automotive accessory or gadget, or a bicycle, may extol the *safety* of his product in comparison with rival makes. You are understandably skeptical because you know that his objective is a sale. You question whether safety is truly of interest to him, and you doubt also that a salesman can qualify as a safety expert.

We have nothing to sell—except your survival and that of your children. We have studied the data released by the U.S. Government on the subject of this pamphlet, data based upon the knowledge of some of the world’s best informed scientists. We have completed a nationwide survey of the public schools to learn how well we Americans are applying what we know in order to protect our children.

Let us tell you what we have learned about two important matters—the knowledge we can employ to protect our children, and to what extent we are using it today. And also, let us point out some specific guidelines for action.

For those among us who questioned the need for civil defense some time ago because of sweeping changes in policies and procedures, a word of explanation is in order. It has been said that for every action there is a reaction. We cannot understand a reaction, or a series of reactions, if we do not relate them to the causative actions. This, many of us failed to do in judging the changing patterns of civil defense over the years since World War II.

Civil defense is a reaction or counteraction, a measure to protect people against enemy action, or against natural or accidental disaster. One could not expect that measures appropriate for the conventional bombing of World War II would suffice for nuclear war—or that the measures appropriate to the latter in 1950 or 1955 would be the best possible today—or even that nothing was learned from the Alaskan earthquake and other disasters. The old idea of constructing underground shelter against blast effects has given way to the far more practical and less expensive system of using all available shielded space for protection against radioactive fallout.

Civil defense, in order to be as effective as possible, made its own advances in response to the advancing nuclear warfare capability of our potential enemies. It also kept attuned to the latest understanding on the subject of natural disasters. In short, the dawn of the Nuclear Age, with the modern weapons delivery systems, brought about sweeping changes. Our CD policies and practices changed with them. Otherwise *civil defense would have become obsolete*. In any field of endeavor, it is not *change* we must distrust, so much as failure to change in line with altered conditions.

### **"CAPTAINS COURAGEOUS"**

The captain went down with his ship—a heroic tradition of the sea. Useless, perhaps, but it meant that he did not abandon people aboard ship while he left in a lifeboat for his own safety.

But, on second thought, an experienced sea captain would be mighty useful in command of the lifeboat fleet.

And a third thought—what would we think of a ship's master who decides that if his ship should strike an iceberg or be torpedoed, it must inevitably sink with all hands; so he carries no lifeboats, no lifejackets, holds no lifeboat drills, and plans to lie down and die if his ship founders—to absolve himself from all responsibility for his passengers by projecting blame for the tragedy on other persons or circumstances. Would you have your family sail on his ship? And would you respect his intellect if you knew that his beliefs contradicted the best scientific evidence extant today? Of course you wouldn't.

Yet we have such "captains"—many thousands of them—in government, labor, business, the professions—perhaps including education. Many of them are intelligent people, well informed in their respective fields. They are simply unaware of some stern facts about the world of the 1960's. A few have deliberately closed their minds to the facts because it was the easiest stand to take.

But we have "ships at sea"—thousands of schools crowded with millions of our children. Educators are our captains; the people are our shipowners. How can we give them the facts—first the educators, and through them, the people?

This booklet means to do just that. No selling. No gimmicks. This is one piece of unsolicited literature that gives you facts and seeks no return payment. You may find its message to be a real challenge.

How safe are our children today? Your own?



Can we do better—for them—much better than we have done to date, in light of today's knowledge?  
Judge for yourself.

## HARD FACTS

First, let us look at one kind of disaster which threatens children in school, *the nuclear disaster*.

As a result of continuing research and studies conducted by the Department of Defense, the U.S. Government tells us the following:

1. Our potential adversaries in war have the capability of delivering nuclear devices to *any part* of the continental United States. This surely does not imply that only military targets would be hit. Whether by limitation in control or by design, any point on a map may become "ground zero"—the point directly beneath the center of a nuclear explosion.
2. With the detonation of a modern, major nuclear device the following conditions would exist:
  - a. Whether it was a ground burst (a nuclear explosion on or below the surface of the earth), or an air burst (sufficiently high that the fireball would not touch the earth), destruction of personnel and objects directly under the burst would be complete.
  - b. The chance of persons surviving the *blast effects* would be greater in direct proportion to the distance from that place called "ground zero."
  - c. An explosion of a nuclear device at or near ground level raises great amounts of vaporized materials, which when it cools into solid particles becomes contaminated with radioactive fission products and weapons debris. As the debris cools this material falls back to earth, its spread determined by the wind. This radioactive material, known as "fallout," might be deposited on *any or all* areas of this country.
3. With the nuclear capability possessed by at least one other nuclear-armed nation today, the *blast* casualty and damage would be heavy, but destruction would be far from total except in relatively small localized areas.
4. Shelter from the radiation from fallout for a relatively short time can make the difference between death from radiation sickness and retention of normal health. This might well apply to many millions of people.
5. Perhaps the most important concept to understand is that of the *fallout shelter*. It is not a blastproof underground bunker, as so many believe. It is an area, usually found within an existing structure, which provides a significant resistance to penetration by radiation from the fallout residue of a nuclear detonation. It is most often not underground, and most often has added nothing to the cost of the building in which it was located and identified.
6. Fallout from a nuclear explosion undergoes a process of rather rapid radioactive decay. Roughly, for each multiple of 7 in terms of time, the intensity of the radiation is reduced to one-tenth, i.e., if the dose rate at 7 hours after

the explosion is 100 r/hr then at 49 hours after the explosion the dose rate would be 10 r/hr. We may think of *Time* as one ally, and *Shielding* (shelter) another. A third—*Distance*—would be the distance from the radioactive fallout.

7. Planning and organization, often with little or no expense to the school district, can provide the protection that can save—if accomplished in time—the lives and health of millions of children throughout the country. (This planning also applies to protection from fire, flood, tornado, and other disasters as well as radiation from fallout caused by nuclear war. Both kinds of protection are often achieved by means of what we might term common denominator procedures.)
8. Although our Government has known these facts for years and has tried hard to disseminate them, the picture of school civil defense is a dismal one, even frightening, when one thinks of the millions of children with little or no protection, and when we adults know what we could have—and should have—done for them.
9. There is one more truth to face, and it is an encouraging one. *We still have time.* Yet time may be running out. The only time that is surely ours to use is the *present*.

## THE NEA STUDY

In order to obtain some idea as to the status of civil defense activities in our school system a questionnaire was distributed by the Research Division of the National Education Association to a stratified sample of superintendents of public school systems throughout the nation. A response of 92.8 percent was obtained. In addition, a series of site-visit interviews was conducted in various areas of the country with school administrators who have had experience in developing school civil defense programs.

Bar-graphs in the numbered "Figures" which are interspersed with the text material, and the series of bar-graphs in the appendix, present items excerpted from the comprehensive tables of the questionnaire data. The school administrator will find a study of these graphs revealing.

The data collected were comprehensive. A study of those data by an advisory committee of educators revealed a picture of a vital weakness in the defense posture of this nation. It also presented a challenge to educators to do everything in their power to provide physical protection—protection of life and limb—for the children in their charge. The ultimate holocaust may never come, yet who can say that it cannot—or that lesser but very tragic disasters will not?

The position of the average school administrator, as revealed in this status survey, is an unenviable one. As a person who has spent his adult life religiously guarding the well-being of children, he faces the possible destruction of his human charges while, in most cases, he has no facilities to shelter them, or has facilities grossly inadequate to do so. In the case of "no facilities," the predominant situation, he is helpless. Where facilities are inadequate, *he must decide which children will be given a chance for their lives—and which will not!*

This is the picture revealed by the nationwide survey. No "blame" is

attributable to any particular person or group. The numbers simply present a cold, objective description of a nation's schools unprepared to cope with disaster—in some cases in spite of the best efforts of school and CD officials. The school system which is well prepared to protect its children in natural and in manmade disasters is the rare exception today.

However, the community shelter planning process initiated in 1965 by the Office of Civil Defense will help the school administrator find the best answer as to where to shelter school children as part of an orderly, community-wide planning effort. The objective of this planning is to put each individual in position to answer the questions, "Where do I go?" and "What do I do?" in case of nuclear attack.

## The School Shelter

Probably the most significant finding from the survey concerns the fallout shelter capabilities of the school facilities of the Nation, i.e., the number of "spaces" available for children for protection from radioactive fallout following a nuclear detonation.

In order to review this report in proper perspective it is necessary to know that the data were gathered during the spring term of the 1964-65 school year. The period was sufficiently far from the Cuban crisis of 1962 to identify the reported status of the contemporary civil defense programs as "noncrisis." The school CD status herein reported seems to be the normal picture for the current cold war era—neither the crest of a wave of interest nor the trough of complacency, apathy, and indifference.

The public schools of the United States enroll about  $41\frac{1}{2}$  million pupils and employ about  $2\frac{1}{2}$  million adults. To conform to the official policy of the U.S. Government regarding fallout shelters for the general population, this group would require at least 44 million shelter spaces stocked with food, water, and other survival items. The shelters should have a *protection factor* (PF) of at least 40. (PF 40 means that radiation from the fallout particles outside the shelter would be reduced to  $1/40$  of its intensity in penetrating the shelter walls, roof, etc.)

Instead of 44 million shelter spaces meeting these desired characteristics and stocked with survival supplies, there exist today only about 9 million spaces *of all kinds*, some  $3\frac{1}{2}$  million of them neither stocked nor licensed. (To be stocked with supplies furnished by the Federal Government, a *protection factor* of at least 40 is required. These must be space for at least 50 people, at least 10 square feet of floor space per person, adequate ventilation, and a written agreement known as a license signed by the owner of the property.)

About 3 million of our children, in an emergency, would have access to licensed and stocked fallout shelters which have the potential of protecting against radioactive fallout. *Only 3 million of 44 million people!* A very small percent of the shelters have trained shelter managers assigned or available. Many lack means of communication during an emergency.

Another  $1\frac{1}{2}$  million children would have access to licensed shelters, but would

be without the supplies considered necessary to sustain life during any prolonged period of radioactive decay of the fallout. ("Prolonged" might be up to 2 weeks.)

Some 700,000 persons would have shelter spaces which will have some provisions not furnished by the Federal Government and which are not licensed. The latter may be due possibly to an insufficient *protection factor*, or perhaps to the school's desire to reserve the spaces for pupils and staff. There are, of course, other reasons for which some may not be licensed.

According to the survey, there are about 3,600,000 shelter spaces "of other types" (neither stocked nor licensed) in schools. This group undoubtedly includes some (proportion unknown) which were primarily selected for disasters of nonnuclear types (such as flood) and are considered merely "the best we have," though they may offer less than desired protection. These are included in the 9 million spaces we have to protect some 44 million children and adults in schools.

Graphically illustrated, the fallout shelter situation in the schools of the United States depicted in figure 1 is not encouraging.

In addition to the public school population cited, there are about  $5\frac{3}{4}$  million children in nonpublic elementary and secondary schools, with over 250,000 teachers. While we do not have the shelter space data for this group, there appears to be no evidence that disaster protection in these schools is superior to that in the public schools. These 6 million (with an unknown number of school employees other than teachers) intensify the significance of the school as a necessary factor in the disaster protection program.

## A Look to the Future

Probably the most serious criticism of the CD posture of the Nation's schools can be leveled at the indications for the future (see figure 2). The extensive and otherwise well-planned current school building program appears discouragingly slow in recognition of the school CD (shelter) responsibility, though here and there we do see a gleam of hope and understanding in some well-planned construction. In the matter of the basic physical protection of school children, it appears that school building design trends in general are moving in a direction opposite to the actual need in terms of shelter from radioactive fallout in a possible nuclear war.

The blame for the condition must be attributed to a number of agencies and groups—professional school people, boards of education, community organizations and citizens, architects, and others—in short, all concerned. Many do not understand the fallout shelter program; others consider it too expensive to build fallout shelter into school buildings. Thus a combination of apathy, lack of information, and misinformation prevents progress, despite the best efforts of those devoted to the protection of school children.

If school people accept the chance existence of shelter areas in old school buildings as the only hope to protect children, our national defense posture—and the protection of our children—are both deteriorating rapidly. Even were we justified in placing cost above both, we would still be grossly mistaken in blaming "cost."

# THE SCHOOL SHELTER

Figure 1

(Population and spaces in millions)

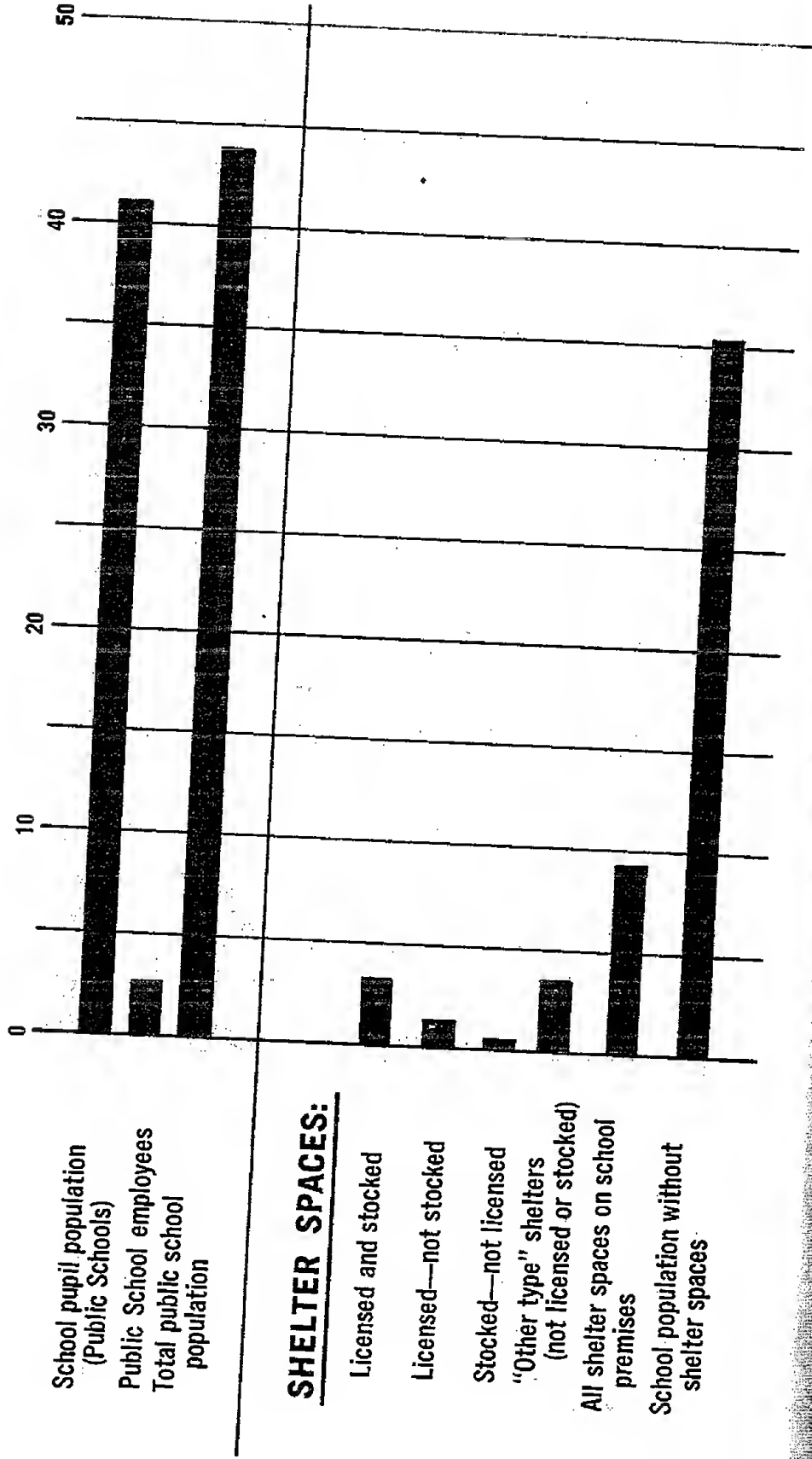
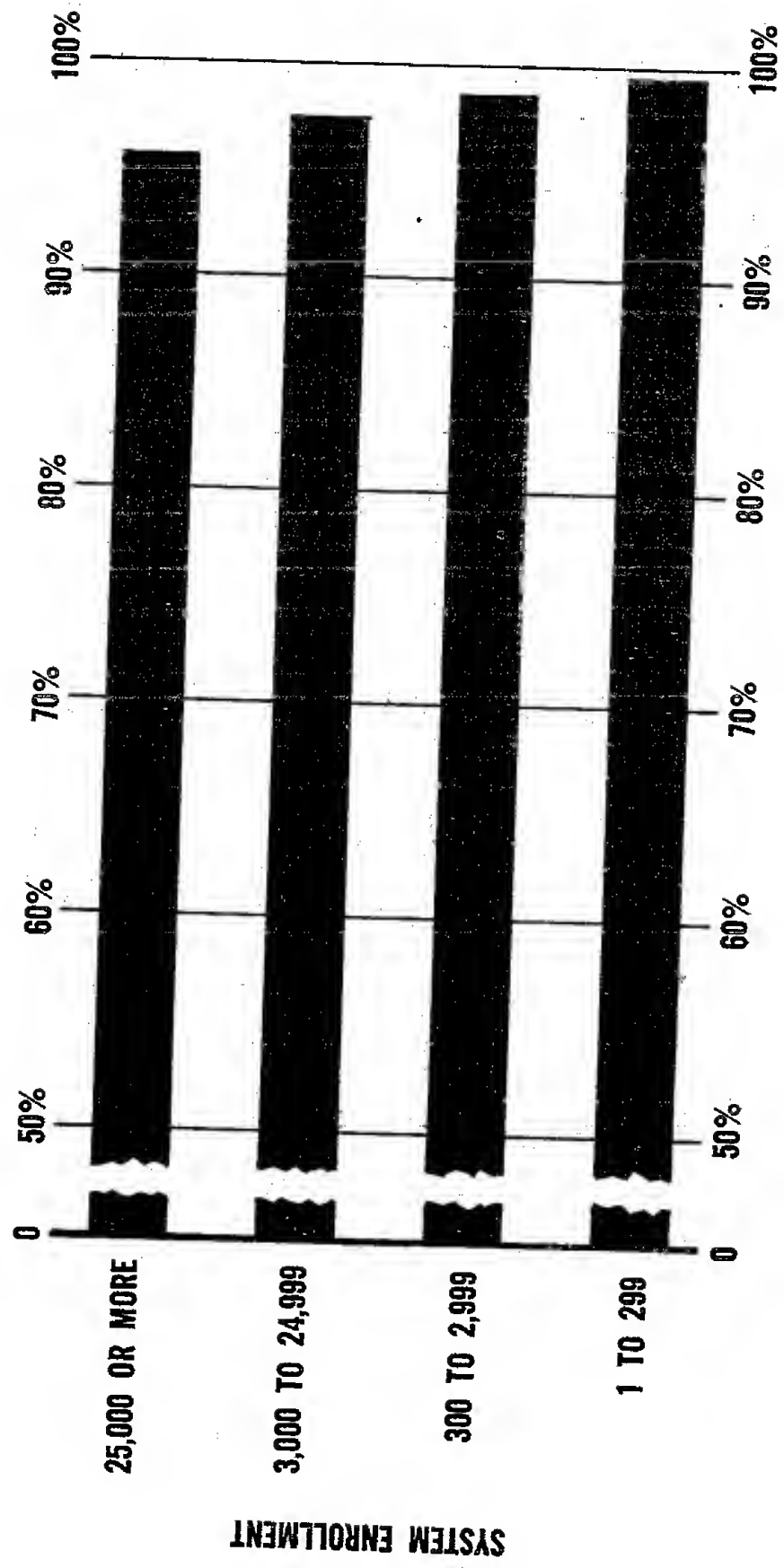


Figure 2

Percent of School Systems with no provision for shelter spaces in new construction now under way or authorized for completion by September 1, 1967



The fact is that fallout shelter capability can be incorporated in new school buildings at little or no additional cost. Figure 3 is taken from a publication of the Office of Civil Defense, *New Buildings With Fallout Protection* (TR 27—January 1965—OCD), which contains descriptions, photographs, drawings, and cost analyses of 34 new structures with built-in fallout protection—buildings designed for and constructed in widely separate communities throughout the United States.

The data given in this illustration are not hypothetical figures but known and applied facts. In connection with the National Fallout Shelter Survey, the Federal Government instituted its Fallout Shelter Analysis Courses, as a result of which more than 10,000 architects and engineers have been certified as fallout shelter analysts. They understand the nature of radioactive fallout and know how to design structures to provide shielding against it.

It is not necessary to sacrifice aesthetic considerations for increased protection for children. There is no reason why a school building designed to protect against fallout radiation cannot be just as beautiful as one in which this consideration was neglected.

In short, there is no reason for the potentially tragic picture shown in figures 1 and 2—except lack of information and lack of action. The antidote is pertinent education of all concerned, by the school administrator, officials of local government and others who know the facts.

## Numbers Tell The Story




Figures 1 and 2, with their revelation of current status, have evoked the preceding comments. The bar-graphs in the appendix of this booklet offer a condensed picture of additional significant data gathered in the national school survey. It is suggested that the reader carefully review the bar-graphs as a manner of orientation in the situation as it exists in schools today. Based upon the questionnaire survey, the site-visit interviews with school administrators, and facts known to the Office of Civil Defense today, the specific recommendations presented in the "catechism" section of this booklet make up the heart of its message.

### "DEAR SIRs:"

This entire booklet is really a "letter" to two people, a schoolman and a CD official. Because its subject is so close to the mission of the latter—CD specialists—its technical sections are not addressed to him. For this reason, and because it brings a special message to the schoolman, this letter may appear at times to be directed to the schoolman only. But this is not its true purpose. It is aimed at team effort—a school-community team.

Much was learned from the NEA study of civil defense in the schools that can be very useful to school administrators. This is part of the message. Our elementary and secondary schools are directly responsible for the safety of more than a fourth of the entire population for perhaps a fourth of the 24-hour day. This means a community of interest shared by school and CD officials.

Figure 3  
**SHELTER TECHNIQUES**

STRUCTURE	A  CONVENTIONAL (No emphasis on protection)	B  SLANTED (Maximize protection at no increase in cost)	C  SLANTED (Maximize protection with nominal cost increase)
COST	\$ 500,000	\$ 500,000	\$ 510,000 +
PF	250 Spaces @ PF 10 250 Spaces @ PF 25	325 Spaces @ PF 40 250 Spaces @ PF 20	625 Spaces @ PF 40 or More
CONSTRUCTION	Large Window Area Hollow Block Walls Entrances Directly Off Corridors Panel Walls Lightweight Partitions Lightweight Roof Construction	Increase Sill Height Offset Entrances Stagger Doors & Windows Masonry Partitions Smaller Window Areas	All Slanting Techniques Fill Hollow Blocks w/ Sand Screen Walls Roof Fill Planter Boxes Roof Overhangs Increase Wall Mass Precast Roofs Depress Building Shields for Openings



In reading of the problems faced by the educator and the suggestions related to them, the CD specialist will detect herein ways in which he can help the schoolman who calls on him for technical advice. Once the team is formed, the much-to-be-desired, coordinated, school-community program is born—or re-born, in cases where public apathy has smothered past achievements.

In giving his technical services to the school the CD official is improving the total community posture in civil defense, and is helping to develop the strongest possible support for his program in the future—*informed citizens of tomorrow*.

This is a letter to two people.

### IF ONLY I HAD—

Going over the story of the bar-graphs in the text and in the Appendix conjures up a vision of the composite American schoolman face-to-face with the ultimate cataclysm—one which we all hope never to see, but one which the intelligent person *knows* we cannot eliminate as a possibility simply by ignoring it.

What would he face?

- A. A completely helpless “We *should* have . . .”?, or
- B. Giving an order which requires *his* decision, “To *which* children shall I give the chance for their lives?” (And will his own be among them?), or
- C. Issuing a clear order to put in motion a well conceived and practiced plan which will operate to give maximum protection to the lives in his care?

Irrefutable statistical data tell us that should disaster strike tomorrow, our typical administrator would have no choice except between A and B. *But today he has a choice*. He may not find it possible to get all the support he needs for a complete program, but he still has time to do his best. *Intelligent foresight is the only human ability which can, in effect, turn back the clock*.

The intellectual capacity and the sense of responsibility are here without question. What specific factual information is needed? What guidelines exist to give direction to a sound plan to fulfill the responsibility of the school for the protection of the children placed in its charge? These are questions the school administrator may well ask. Let us place a hypothetical administrator in the role of interrogator.

# CATECHISM OF SCHOOL DISASTER PROTECTION

## THE SCHOOLMAN WANTS TO KNOW

1. Where can I, as a school administrator, obtain technical information on civil defense?

*Publications:* The Office of Civil Defense and many State education agencies publish comprehensive literature on the subject.

*Civil defense officials:* There are trained CD specialists at all levels of government—Federal (including regional), State, county, and local. They are, in each case, members of the official staff of the governing jurisdiction. While some local governments do not employ civil defense directors, many do. Advisory services can be obtained by any school administrator.

*Civil defense courses:* The school administrator or members of his staff can receive civil defense instruction (tuition-free) in any of a variety of courses offered in all areas of the country. Inquiry should be directed to the civil defense director of the pertinent government jurisdiction. (Incidentally, many educators have found CD courses highly interesting as well as informative.)

2. Is the civil defense program built entirely on the possibility of a nuclear attack on the United States?

No. Protection against any type of disaster, natural or man-made, is far more effective if sound protective measures are taken in advance. Many of the measures appropriate to one kind of disaster situation are also appropriate to others. They may be considered "common denominators" of disaster preparedness.

3. What steps should be taken for best organization of a school civil defense program?

- a. A detailed, written plan for all school CD activities should be made under the direction of the school administrator.

- b. The plan should be approved by the board of education.

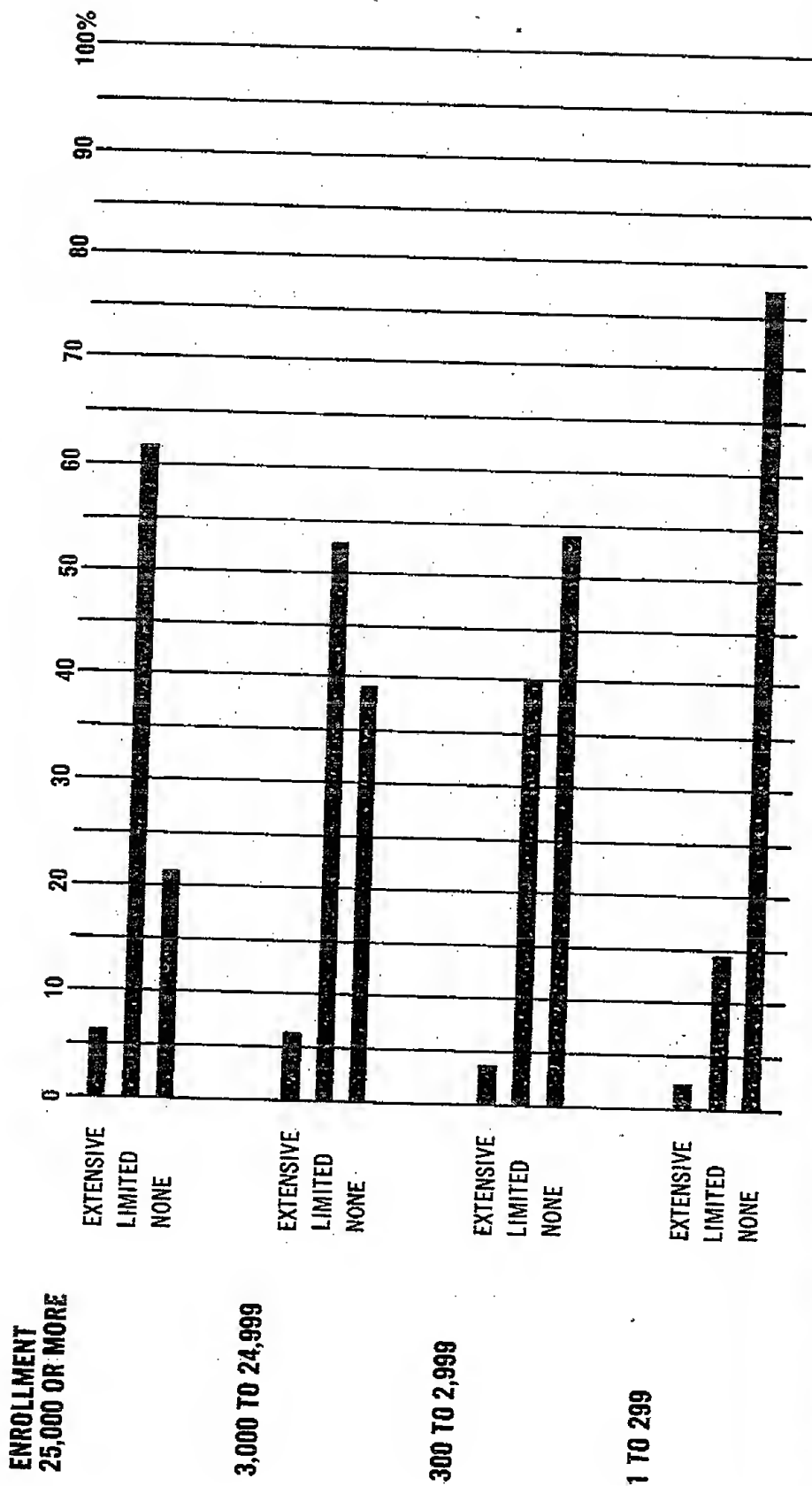
- c. A person should be designated as school director or coordinator of civil defense.

- d. A permanent civil defense advisory council should be formed. It is suggested that the council be composed of members from the school system staff including at least one teacher, from PTA, civic and service organizations, police and fire departments, etc., as far as possible.

Figure 4

# CIVIL DEFENSE TRAINING OF SCHOOL PERSONNEL

(Percent of school systems in which civil defense training is given to school personnel, by size of system)



e. All school-centered CD activities should be integrated with the community civil defense program. In many areas, such as warning, communication, and police and fire services, cooperation and coordination of school and community programs is essential.

**4. Specifically, what are some things a school civil defense plan should include?**

a. An individual with administrative or management experience should be assigned action responsibility for the CD program in each school building. Assignment of assistants as needed for the various phases of the program should also be made by administrative authority.

b. Definite assignment should be given every member of the school staff. Each one should fully understand exactly what his duties are in each type of emergency. This means more than is indicated in the commonly used material in the annual school bulletin or handbook, and in the instructions to be posted on bulletin boards. Administrators have found that such items, while usually read by the staff, are not generally studied and practiced by all concerned. (This also indicates one aspect of the need for drills. Another, of course, is indicated by the fact that every student should fully understand his own part in the emergency plan.)

**5. Does the present lack of school shelter spaces shown in Figure 1 negate the shelter program as a major factor in school civil defense?**

Absolutely not. The shelter concept is still the hub of the disaster protection program. Some points to consider are these:

a. To be licensed (and therefore eligible for government stocking) a building must have a protection factor (PF) of 40 or more, adequate ventilation, and space for at least 50 people, with at least 10 square feet of floor space per person. There may be many school facilities with a protection factor of perhaps 20 to 40 which would be (1) usable, if the PF's were known, and far better than most places the pupils could be, and (2) possibly subject to raising of the protection factor by expedient measures, at little or no cost.

b. Shelters which have their PF raised to 40 or higher may become eligible for licensing and stocking.

c. Also, increasing the fallout shelter capability of new school buildings is strongly indicated by need, and can often be accomplished at little or no cost by the use of "slanting" design techniques.

d. Surveying of existing school buildings is urgently needed to locate their safest places (even though they may not be PF 40) and to identify all opportunities to increase pupil protection.

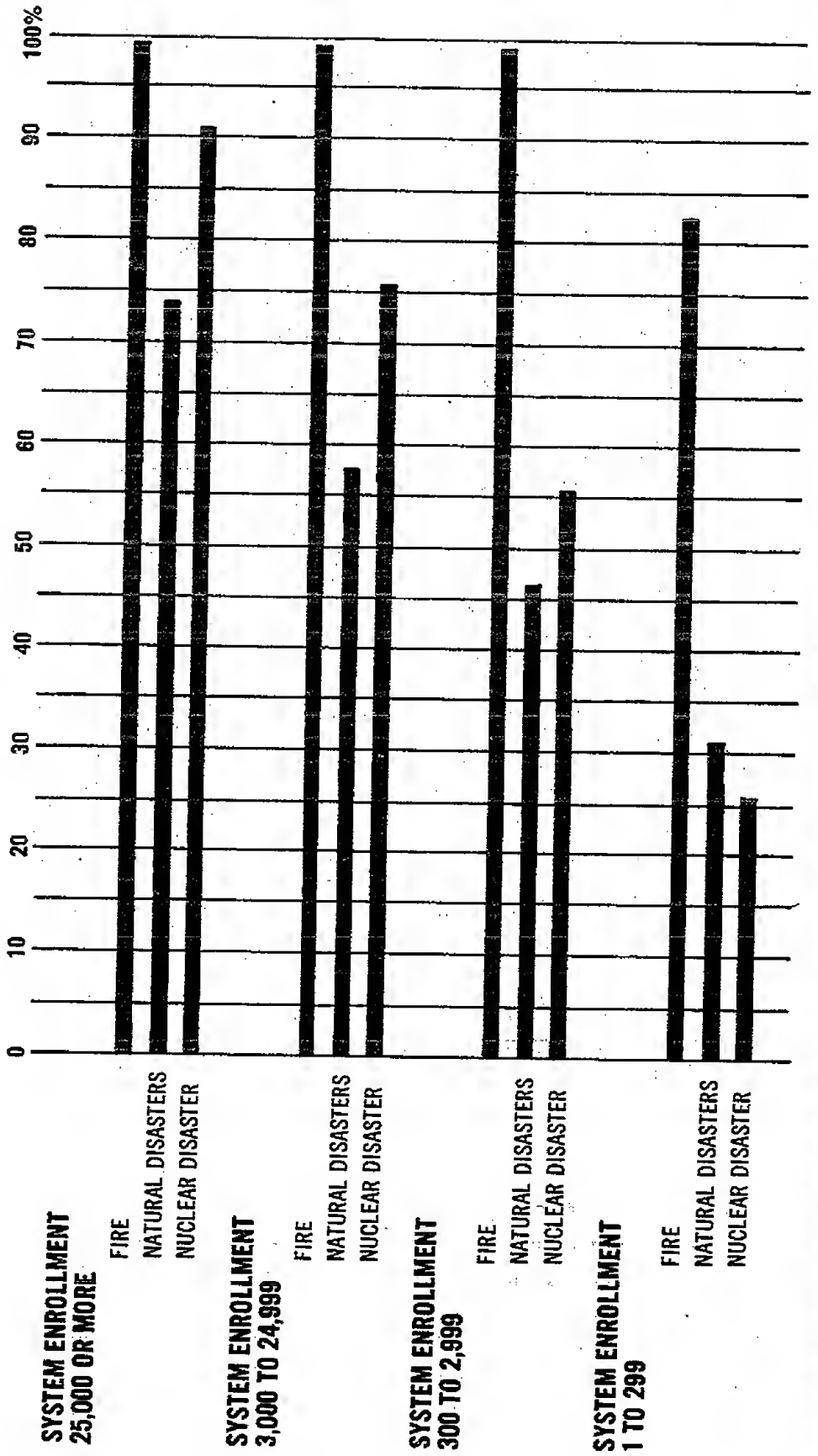
e. Those with a PF lower than 40 may be stocked, using local funds and supplies.

The national picture shown in Figure 1 is not an excuse for defeatism, but is a challenge to accomplish something which is both extremely vital and well within reach.

Figure 5

# PLANS FOR MEETING EMERGENCIES

Percent of School Systems Having Definite Plans



## 6. How important is the emergency drill for disaster protection?

If the reader will recall the history of school fire tragedies, he will note that after many years of experience and study, the common fire drill became the basic school fire protection procedure used almost universally throughout the country. Figure 6 indicates that almost 90 percent of all school districts conduct emergency drills for fire. Actually, in about 98 percent of the school districts in the country with enrollment of 300 or more, fire drills are "often conducted." In the less populous school districts (under 300 pupils) less than 80 percent hold such drills. The construction and the conditions of many of the small rural schools having only a few pupils apparently have convinced the local school people that fire drills are not needed.

In general, however, the history of fire protection in schools has shown the drill to be a necessary and major part of the program. Similar movements of pupils in other emergency situations—in order to avoid confusion, disorder, and panic—require planning, practice, and the capability of efficient operation under emergency conditions. For this, the drill is necessary.

## 7. Is there any need for a separate *school* warning system?

Yes—and there are several reasons for this:

a. The staff member or student may have often heard the sirens of his own or of another community used for a fire alarm, for highway accidents, for announcing the time, and for other purposes. The identification of the sound with a specific kind of disaster, although possibly posted, is in many communities worn off.

b. Determination of the action to be taken by school personnel is the responsibility of the school administrator. He should receive from official sources whatever specific information about the emergency is available—kind, imminence, etc.—in order to decide upon the appropriate course of action for the schools. This requires that he receive more than the siren warning. He must also have the equipment to communicate his decision to pupils and staff. The decision might involve an order to "proceed to shelter" or to "send pupils directly home according to plan"—depending on the availability of adequate shelter at school and on the time available before the expected fallout. A school warning system is especially important when there is a choice of emergency procedures.

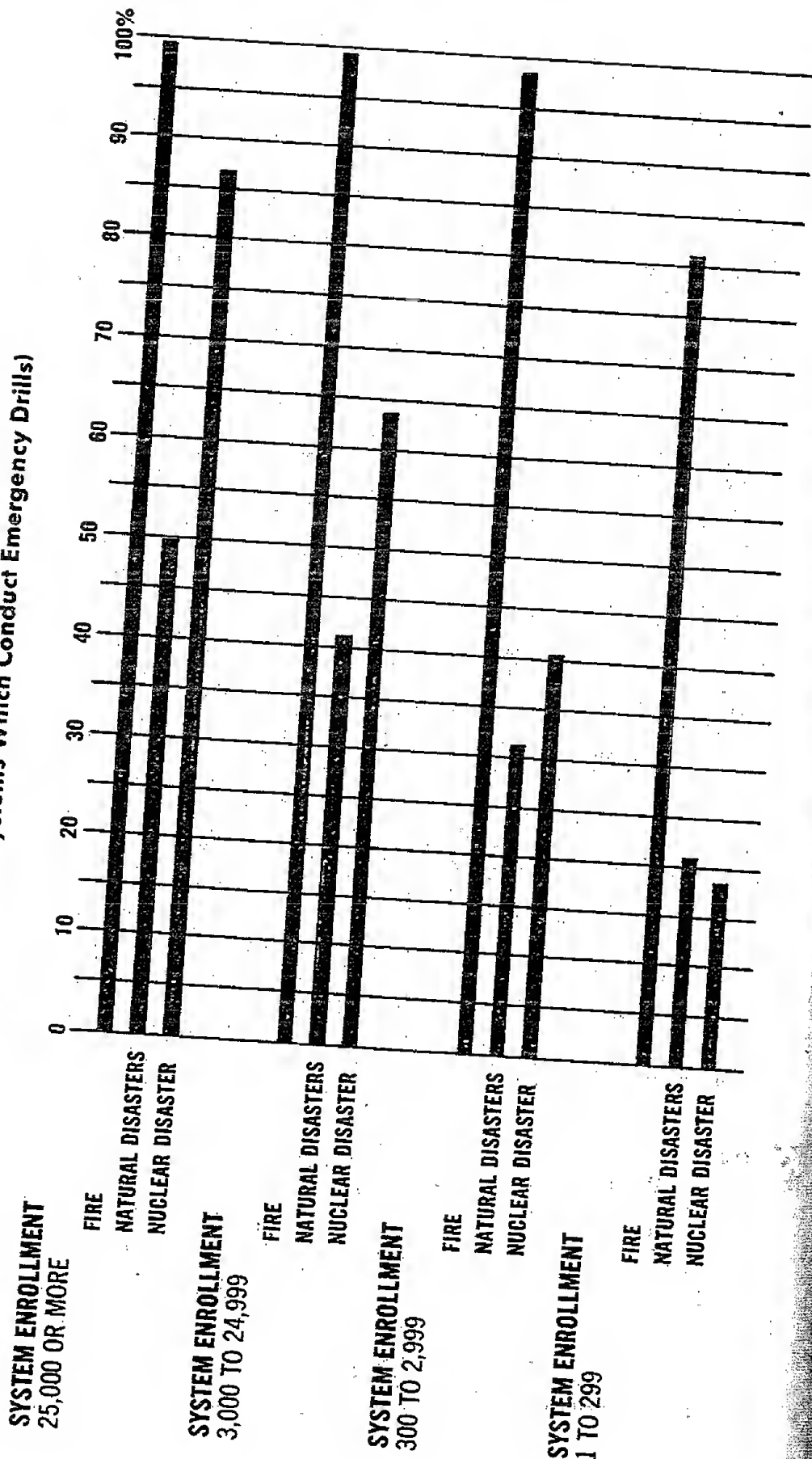
## 8. What happened to the "duck and cover" and mass community evacuation procedures that we rehearsed some years ago?

What happened to your 1950 car? Some of us still have that model and find it useful for certain purposes. There is an area around nuclear blast in which survival would be quite probable for most, but in which blast effect on exposed body surfaces could be severe—eyes, skin, etc. Too, flying glass from the extensive windows of the customary school building of today could cause much more injury to a person standing or sitting in normal position than to one in a "duck and cover" position. This "old car" still has some value, but it is an immediate short-term expedient, useful only under appropriate circumstances

Figure 6

# EMERGENCY DRILLS

(Percent of School Systems Which Conduct Emergency Drills)



for immediate protection, as with the blinding flash of a nuclear blast, or when flying debris may be expected during a tornado or earthquake.

Mass evacuation is appropriate for fire and for some other types of disaster. Now, however, we are thinking in terms of a potential enemy's capability to launch a large-scale nuclear attack, with radioactive fallout contaminating thousands upon thousands more square miles than can be hit by blast. The problem is to get people into shelters in which they can live until decay of radioactivity permits a return to normal living. Civil defense must be considered a reaction phenomenon, ever adapting its policies and procedures to the international situation, the military capabilities of other nations, and the experience-gained knowledge of natural disaster protection—ever changing to meet current need.

**9. If a school staff has successfully conducted fire drills (and possibly other kinds of emergency drills), is there any need for specific, formal instruction of staff members in civil defense subjects?**

Yes—definitely. For one thing, a fire drill is usually a matter of very short duration. Even a shelter drill lacks many of the elements of “the real thing.” However, to actually carry out all the command type responsibilities of a shelter manager (for instance)—feeding, sanitation, decontamination, police and fire services, communication, psychological leadership, etc., over a period of from a few hours up to perhaps two weeks of close confinement—would require a considerable amount of specialized knowledge and management skill.

**10. What are the civil defense training needs of a school staff?**

All school personnel should be kept up to date on civil defense information. The school CD program should be reviewed at regular intervals, and whenever up-to-date information indicates need for changes. Again, because civil defense is a reaction or counteraction, CD measures must change in response to any pertinent change in the nature of the man-made threat, and in accordance with new knowledge of natural disasters.

School personnel, at least key individuals, should have formal training in civil defense. The OCD Staff College, some universities, and adult schools offer courses of different kinds. The staff college and university courses are more appropriate for those who have key assignments. The adult school course, featuring “Personal and Family Survival,” is more general in nature.

Tying in college course offerings with the needs of local school systems has proved both possible and desirable.

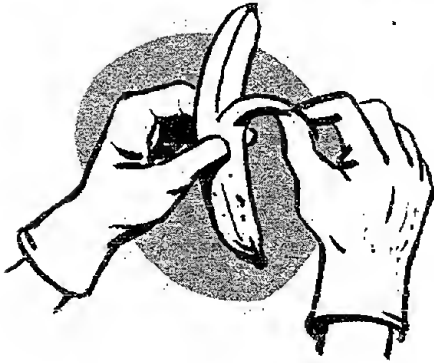
Courses such as “Shelter Management” and “Radiological Monitoring” should be completed by key staff personnel who should then be given appropriate assignments in the school CD plan.

It may prove desirable to have some school staff members complete instructor courses in order to train the needed number of school staff members in each category with minimum expense and inconvenience to all concerned.

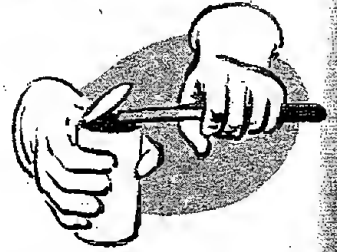


# KNOWLEDGE CAN SAVE LIFE . . .

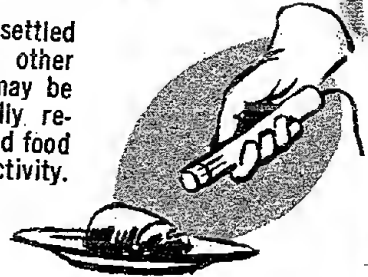
## Decontaminating Food and Water



Contaminated fruits and vegetables may be eaten safely if the contaminated skins or outer layers are carefully removed and discarded.



If contaminating fallout has settled on the outsides of cans or other containers, the food within may be eaten safely if it is carefully removed. If possible, the removed food should be checked for radioactivity.

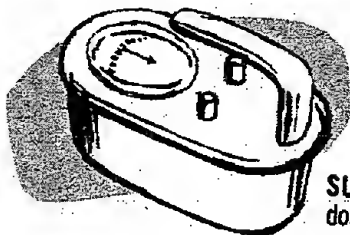


Place discarded outer skins and containers in a can marked "CONTAMINATED" cover, and place can where it will not expose people to radiation from the discarded material.

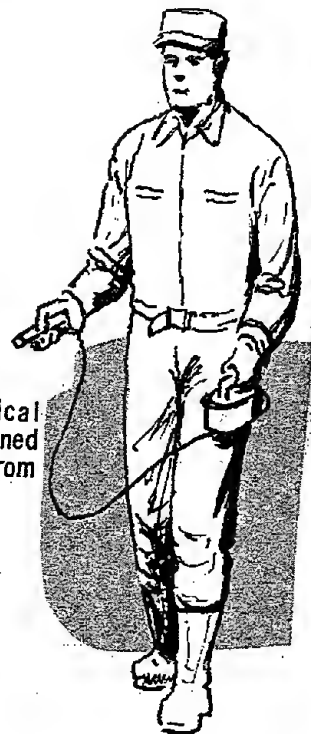
## Detecting Nuclear Radiation



**DOSIMETERS** measure total radiation dose (roentgens or "milliroentgens")—a milliroentgen is 1/1000 of a roentgen.



**SURVEY METERS** measure dose rate (roentgens or milliroentgens per hour).



Civil defense Radiological Monitors are specially trained to read radiation levels from these instruments.

Figure 7a

# AND MAKE LIVING BETTER

## Shelter Activity



## Care of the Sick



Figure 7b

In the Teacher Opinion Poll conducted annually by the NEA Research Division, it was learned that 1.3 percent of all teachers (more than 20,000) had completed the Shelter Management course (as of 1965). Some 1.8 percent of all teachers have completed courses in Radiological Monitoring, 9.3 percent in Civil Defense Adult Education, and 2.5 percent in Medical Self-help. This information has several implications.

There may be more teachers trained in various aspects of civil defense than are indicated in school personnel records. The movement of teachers from one school district to another and the completion of courses independently may partly account for this. Also, data obtained directly from teachers reflects the large-school-system status to a greater degree than that obtained from superintendents, the latter being in much smaller proportion to teachers in large districts than in the small ones. (The large school districts have indicated greater civil defense interest and activity, in the basic NEA civil defense status study.) It is also highly probable that some teachers have received instruction in some areas of civil defense while they were members of the Armed Forces.

These data seem to indicate a need for surveys of already existing civil defense capabilities of school staff members by school districts in planning for civil defense.

One additional point is the matter of recency of training: Knowledge of civil defense subjects must be kept current.

11. Is it sound, professionally, to offer incentives (such as professional growth credit for salary advancement) to school staff members who complete formal CD courses?

It is. Certainly the knowledge and skills acquired increase the value of the individual to the school system and its pupils. Also, the subject matter of the course is broadening in effect, and educators have come to recognize values in study outside the traditionally defined subject fields.

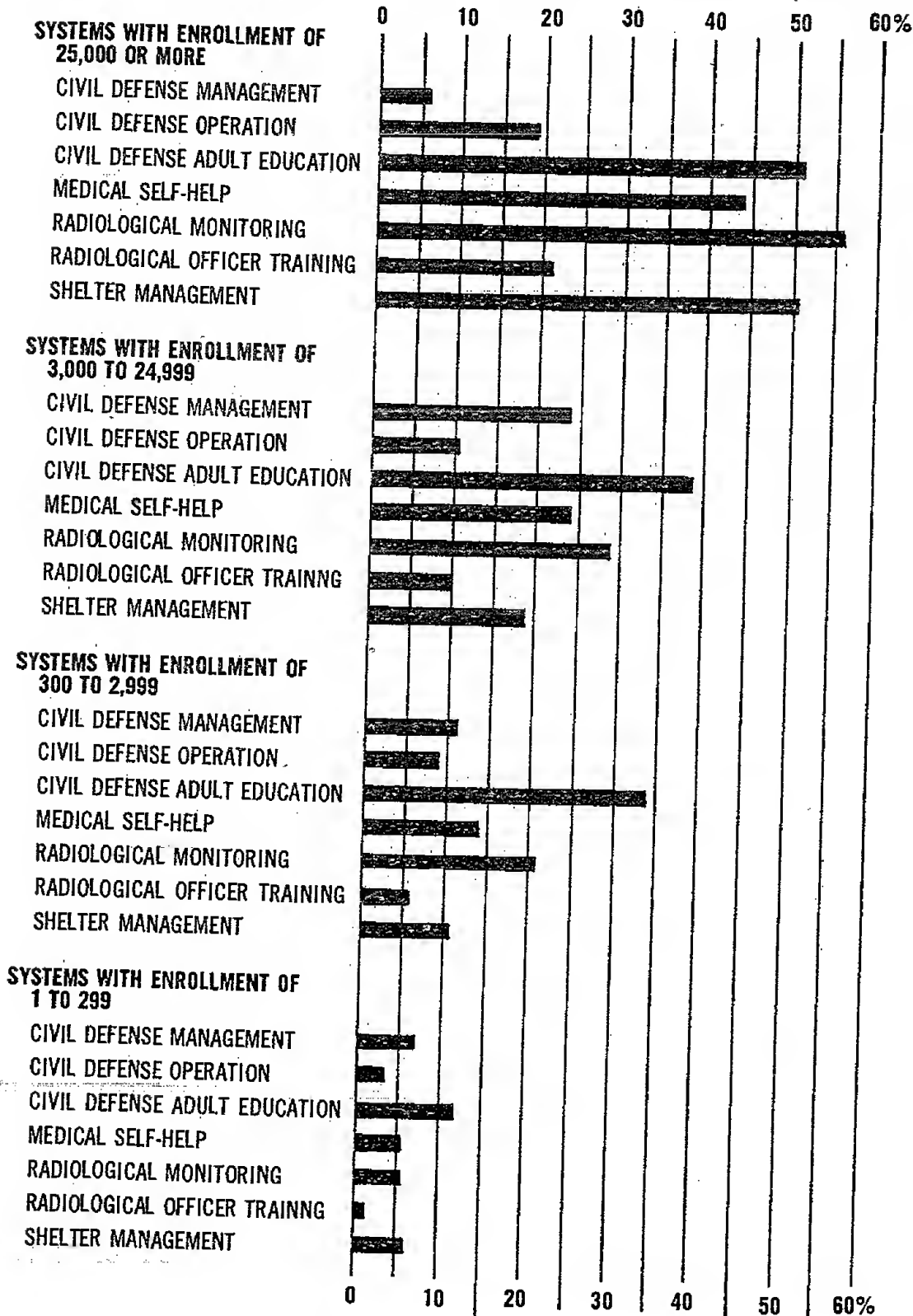
12. Speaking of subject fields, what justification can be advanced from the standpoint of education, for including civil defense subject matter in the school curriculum?

The old picture of Johnny sitting at his desk from 9 to 3 in the self-contained classroom, reading, writing, and figuring, as his total educational experience is long and well dead. Civil defense subject matter includes meteorology, physical science, nutrition, physiology, communications, arithmetic, and material from other fields. Its study is motivated by self-preservation, new experience, identification with sensational international news, popular publications, and the like. Here is an opportunity to take still another path toward the objectives we all recognize. Knowing what we do today, it requires only an understanding of the substance that lies within the civil defense areas of information, to recognize them, not as an intrusion into public education, but as distinct contributions to its goals.

Figure 8

## CIVIL DEFENSE COURSES COMPLETED BY SCHOOL PERSONNEL

(Percent of school systems in which these courses have been completed by some school personnel)



13. Our curriculum is already "bursting at the seams." Many demands, not the least of which are college entrance requirements, have made student and staff time a critical matter. How can we add civil defense subject matter to our already overcrowded curricula?

This can be—and is being—done. Perhaps the concept of "civil defense subject matter" is not clear. Actually, this is merely a reinforcement and a motivation for subject matter already recognized as appropriate to the youth of this age. The nature and structure of the atom, significance of nuclear energy as a source of power, sanitation, first aid, nutrition, meteorology, etc.—these are not frills or extras, but sound content, taught with one more recognizably practical application in the contemporary world.

Schools report the use of two approaches in teaching this material. Many schools integrate these items into the appropriate courses, as nuclear energy in science courses, first aid (including the medical self-help concept) in health courses, etc. Their civil defense significance is noted and taught. Another approach is to have a civil defense unit of perhaps 2 weeks within a general science course which is required of all students.

An important point is to include the basic CD material where all students will get it. It should not be restricted to an elective course taken by a few students, because the subject is of universal concern, a matter of survival. The student who has not yet learned its lessons cannot judge its value as a matter of life-and-death for the individual, the family, and the community. Decisions concerning integration of CD concepts and materials in the basic curriculum should be made by informed authority.

14. Our community (board of education, staff, PTA, etc.) is completely apathetic to civil defense. Is it, then, desirable and/or ethical for me as a school administrator to develop a school CD program?

Informed and conscientious school administrators have taken a leadership role in civil defense in their communities and have reported receiving enthusiastic support, once the people, boards of education, school staffs, PTA's, etc., became truly informed on the subject. (Educational procedures need not always be limited to children, as every schoolman knows.)

If a true disaster situation occurs—man-caused or natural—and pupils and staff are on school premises, or even spectators at a school event, there will be no sharing of the primary responsibility among the people and groups of the community. You, the schoolman, will have it.

School administrators have recommended these procedures as effective ones in gaining support for a CD program:

- a. Talks presented by well-informed, skilled speakers at meetings of PTA's, service clubs, women's clubs, and other groups, have helped to mold opinion favorable to the program. While some of these groups are outside the school organization, a good working relationship between the school and local government personnel can further such activities in support of an effective, coordinated civil defense program.

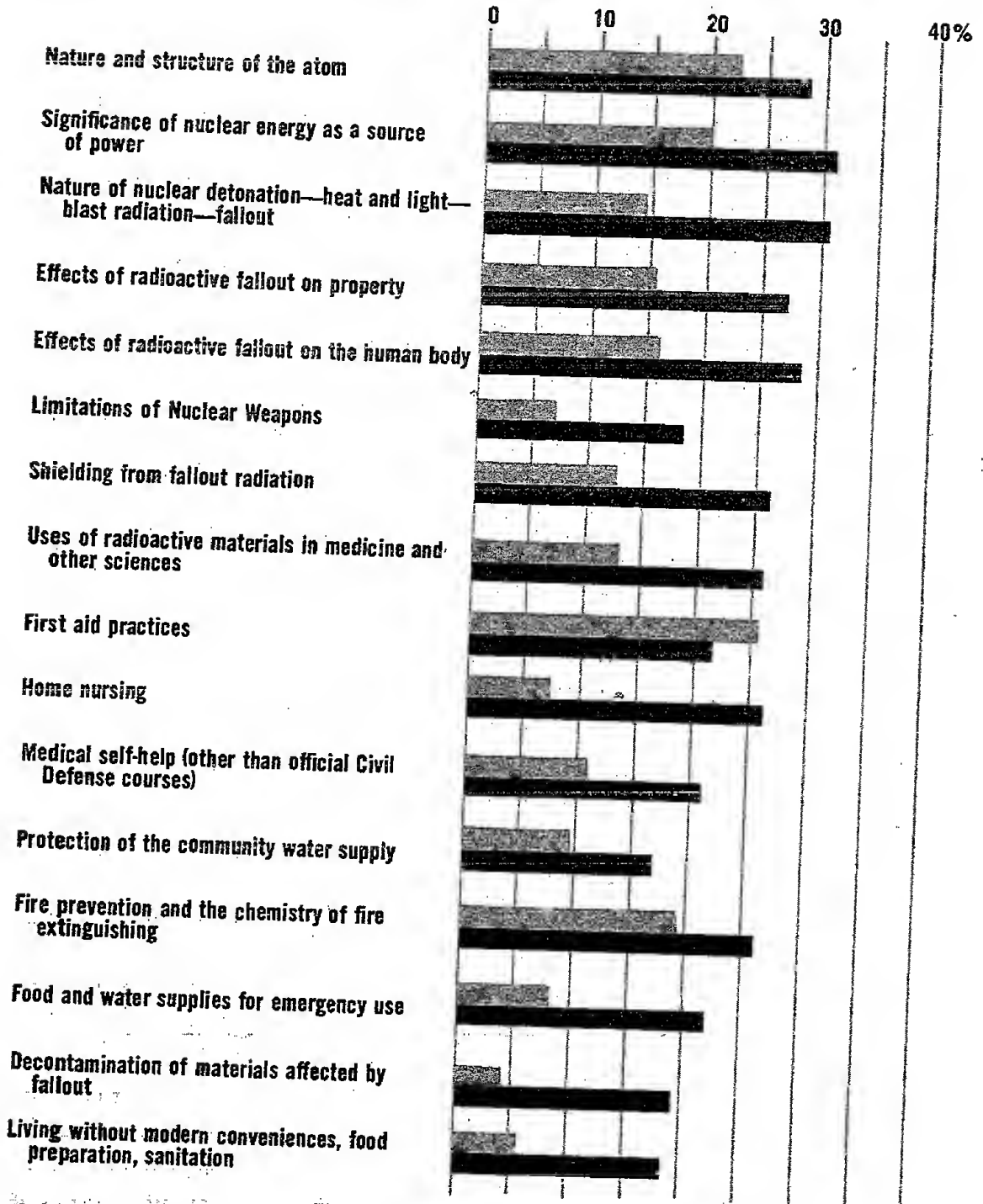
Figure 9

# CIVIL DEFENSE IN THE SCHOOL CURRICULUM

Percent of systems in which selected areas of information are regularly included in the curriculum

Required of all pupils at appropriate grade levels

Required only of pupils enrolled in certain courses



b. Trips by PTA groups to military and civil defense installations where there is obvious, concrete evidence that the Government of the United States recognizes the need for an efficient CD structure, have proved very effective in gaining and maintaining interest and support for the school CD program. (Many PTA's have a chairman of civil defense.)

c. Establishment of citizen committees has been another successful method of gaining public support for school CD activities. Started largely with persons interested in the subject, membership grew—taking in others who became interested through the efforts of the original members. Such committees have been set up within the framework of such a school support organization as the PTA, as a separate school support organization, and as a completely independent community organization.

d. Recognizing the lasting public image of the late President John F. Kennedy, use of his words of May 25, 1961, is very effective in winning over the support of many who would, by themselves, remain apathetic to civil defense. Referring to the common belief that our possession of weapons with the potential of total destruction of an enemy would certainly deter any enemy from attacking us, he said: "But this deterrent concept assumes rational calculations by rational men. And the history of the 20th century is sufficient to remind us of the possibilities of an irrational attack, a miscalculation, an accidental war, or a war of escalation in which the stakes by each side gradually increase to the point of maximum danger which cannot be either foreseen or deterred. It is on this basis that civil defense can be readily justifiable—as insurance for the civilian population in case of an enemy miscalculation. It is insurance we trust will never be needed—but insurance which we could never forgive ourselves for foregoing in the event of catastrophe."

e. Supporting public statements made by recognized and respected public figures gain support for the program. This refers to community and state as well as national leaders, and to leaders in medicine and other professions, in business and industry, in entertainment, and in other fields. Not all command universal respect, but the leader-identity of popular personalities does carry weight, each with his own follower group. Public figures can be enlisted to gain support for a CD program.

f. Inclusion of the full range of disaster protection pertinent to the geographic area strengthens the program in the public eye. The citizen who remembers the last two floods, or tornados, or the earth tremors, or hurricanes, has been personally involved. He knows that disaster in some form can strike. He may not be "reachable" with the facts about radioactive fallout, but if he identifies the civil defense program with real physical protection, he is a potential supporter.

g. Information—knowledge of the facts about civil defense—is perhaps the most needed basis for support. Facts alone may not motivate, but use of the facts can reinforce a growing personal identification with civil defense and its implications for survival. The rationale behind the civil defense concept is sound and convincing. It needs to be presented to the public at every oppor-



tunity. School and community publications and the popular news media should be used in a continuing public information program.

h. Similarly, within the educator's world, the rationale for civil defense should be cited. General sessions of educational conventions, teacher workshops, and school staff meetings provide good opportunities to present the case for civil defense. Proclamation-type publications issued over the signature of State, county, and city superintendents of schools can be used to good advantage.

**15. To what extent should parents be involved in the school civil defense plan?**

Communication with parents is essential for the efficient operation of a school CD plan. First, the parent should understand how the plan affects the parent's own child, and the reasons for needing a civil defense program in the school. Then the parent should know his or her own part in the overall plan. Should the child's mother be told that the safest place for the child is (if it is) in the school building? Should she be told that driving to school when a warning signal sounds is an undesirable and dangerous procedure? May she expect her child to be sent home if time permits, but retained in school if the disaster condition is imminent? Is there room for parents to come to school and stay with their children?

Of course, the individual school system must determine these details. Nevertheless, effective communication with parents serves two purposes. It helps to gain the support of those most vitally concerned with the safety of children, and it operates for efficiency in both drill and possible disaster situations. Some school systems offer parents the option of having their children sent home or retained in school shelters, with the school having on file parents' written decisions. Parents should be given the facts as to the protection within the school facility, as compared with the probability of comparable safety elsewhere—information upon which to base an intelligent decision.

**16. Can a school cafeteria staff play a role in the civil defense plan?**

Planned involvement of the school's food service personnel and facilities can either supplement, or substitute for, the Federal Government-supplied shelter food rations. Proper balance, maintenance, and rotation of supplies, and procedures for emergency serving should involve planning with the regular school food service personnel.

**17. Aside from storage of water in containers (government-supplied to licensed shelters), is there anything else that should be done about emergency water supply?**

A careful survey of the potable water supply available under emergency conditions is indicated. Water trapped in the building's plumbing is one source, but the possibility of toxic anticorrosive substances in water should be investigated. A well on school grounds with hand or electrical pumping equipment (with an emergency generator and fuel) is good insurance. Water is a critical



item in even very brief shelter periods, and would be, also, in community use of school facilities during time of national disaster.

18. Would an emergency electrical generating plant (and properly stored fuel for it) be of value for emergency service other than in pumping water?

Yes, it would be very useful. First there is the item of communication. It greatly enlarges the possibilities for communication among the schools in a system, among school shelters, and between school and CD communication networks. Further, it can furnish power to operate receiving sets and two-way radios and intercom systems if the regular power supply fails.

Ventilation systems may be kept operative with the emergency generator as a power source.

Lighting systems are of great psychological as well as practical importance during periods of stress. An emergency generator can serve such systems.

One important point is this: While our public utilities and our public transportation systems have a history of providing outstanding service in times of disaster, there may be disaster conditions in which the telephone and the power lineman, and the train and bus operator, and the trucker, and others on whom we depend for so much, will be unable to perform their normal functions. We must recognize this as a possibility and strive to achieve the capability of functioning independently of outside services, i.e., the normal services from outside the school.

It is worth noting that some of the equipment that schools have purchased for disaster preparedness has—in many cases—served extremely well for comparatively minor emergencies: broken power lines, drought, use of school buildings during blizzards, flooding, etc. *It is not necessary that we have a nuclear war to find a good civil defense preparation extremely useful.*

19. If the elementary schools in our district have no areas with the minimum protection factor of 40 which would qualify them as licensed fallout shelters, would there be any point in our conducting the shelter drills you advocate?

Yes. There might be at some time an immediate emergency condition in which children should be moved to the *safest place available*. In fact, shelter allocation in the community shelter plan is based on this concept. It may have a protection factor of 20 or 30, and therefore not qualify as a licensed shelter but will still be much better than nothing and may make the difference for survival based on this concept. It may also offer protection from flying glass from outside windows shattered by blast or storm. As the safest place for any of many reasons, it should be recognized and identified for all concerned. The licensed fallout shelter is by no means the complete story of protection. The Federal Government has faced this and has recognized the "safest-place-available" concept in community shelter planning projects.

One more point: Thought should be given as to which are the safest places in terms of each different kind of disaster. The fallout shelter need not be

underground; most are not. The high place with best protection from flood might be a poor place during a tornado or earthquake. While there are some common denominators among shelters, a careful analysis is needed.

## 20. What is the best time to hold shelter drills?

Like fire drills—on an irregular basis: During classes, while classes are passing, during after-school activity time, during the lunch period, etc. All school personnel should know what to do no matter where they are, in the event of fire or any other emergency, whether or not there is someone at hand to direct people and control the situation.

## 21. We have an excellent "storm day" warning system for our schools. Following a definite procedure, our central office telephones certain individuals each of whom immediately calls a number of others. They, in turn, each call several others. Our entire large system can be alerted in less than 15 minutes. Would not this be an excellent procedure for any type of emergency?

This is doubtful, chiefly for two reasons. Even one telephone line down could break the chain, isolating those to be called in that sector. Also, in the event of a great national, regional, or even a severe local disaster, telephone circuits are very likely to be jammed with inquiries directed to police, fire departments, schools, radio stations, and newspapers. Even if the lines and equipment are left physically intact, telephone communication, other than by the special emergency lines, might prove impractical.

An independent communications system (radio, special telephone lines, etc.) is much more dependable, although the principle of having a standard operating procedure is a very good one. Many school systems have internal communications systems of radios, intercoms, etc., and have found it highly desirable to publish a set of standard procedures for their use. Adherence to standard procedures removes the objection of many school people that, uncontrolled, such systems defeat their good purpose by too frequently and unnecessarily interrupting classes and other constructive activities.

## 22. Are there any other instructional devices we might use in improving the image of school and general Civil Defense?

School administrators have suggested the following:

Literature for pupils to use in class and to take home, appropriate to grade level, of course. Some school people believe that many parents who finished school years ago find today's physics, biology, math, etc., new to them, and tend to read and learn from materials their children bring home. The psychological advantage of this approach can be seen.

Also, using civil defense as a club activity and combining explorations in meteorology, radiological detection, and the like, with the study of disaster control measures, rescue services, and emergency communications systems, has an appeal for many students. The variety of subjects covered tends to attract students with widely different interests.

It is further suggested that school administrators contact the Civil Defense Adult Education Coordinator in their own state education department with a view to scheduling Personal and Family Survival courses for their own school systems. Among other persons, nearly 48,000 teachers have already completed such courses.

## **THE COMMUNITY CIVIL DEFENSE OFFICIAL AND THE SCHOOL**

This booklet has emphasized the school phase of the total civil defense program. It is one piece in a mosaic which is well known to the CD official. Like a piece of a mosaic, it performs its function best where it fits into the total pattern. It is in the process of adjustment to the total pattern that the civil defense specialist can contribute much to the success of the school CD program.

The shelter systems, the warning systems, the communication systems—many aspects of the school and community programs—should be integrated for efficient operation. The "Community Shelter Planning" project initiated by the Federal Government contributes to this effort. It is based upon realistic planning to use the best fallout protection currently existing in the community. With this in mind, the school administrator will appreciate the need for an effective working relationship with the trained local government official who is assigned to coordinate local civil defense planning.

At the same time, CD officials who read this booklet may come to understand better the problems schools face in developing good civil defense programs.

## BIBLIOGRAPHY

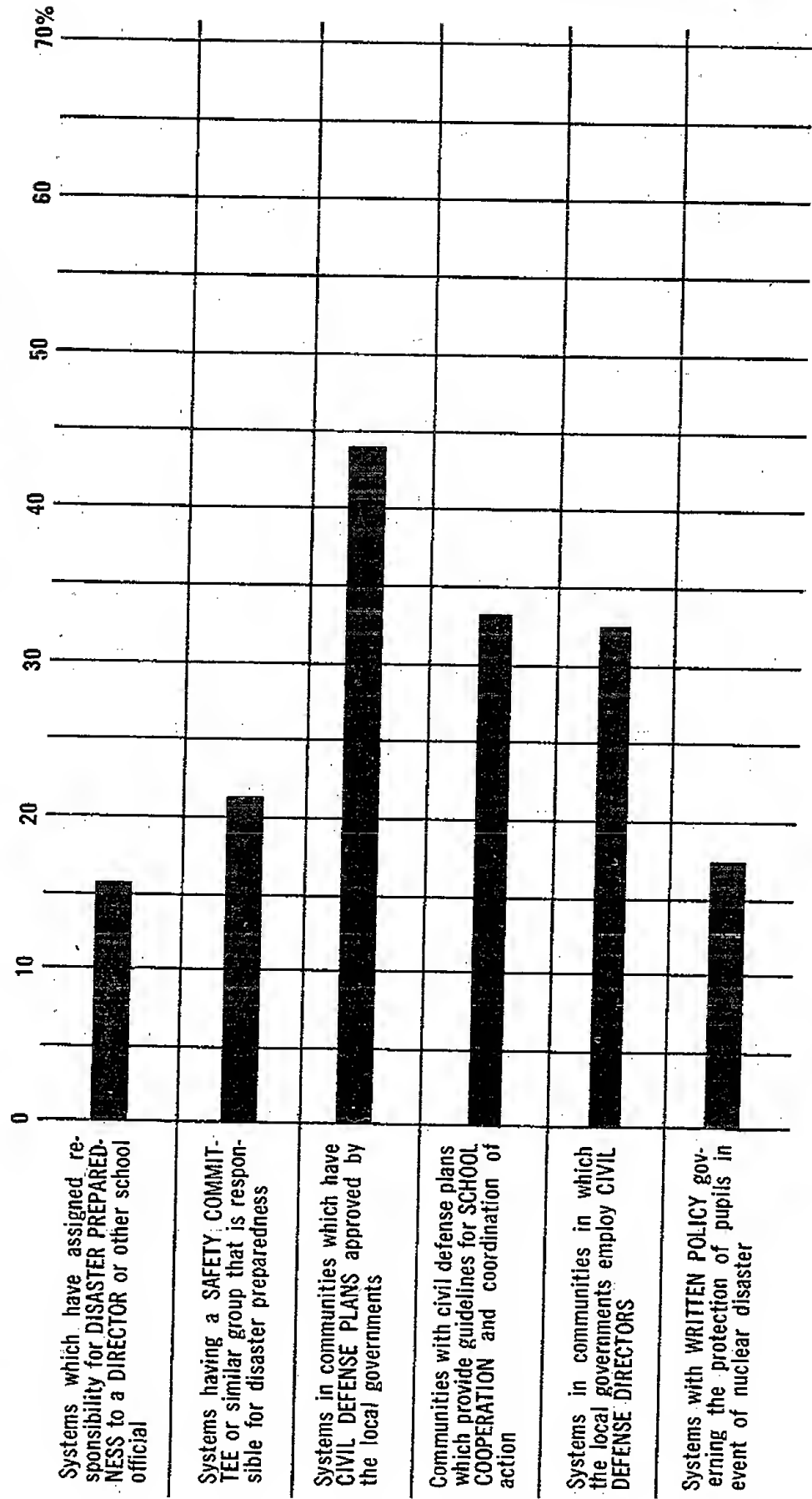
The following publications may be obtained from the Office of Civil Defense, including:

1. *New Buildings With Fallout Protection*, TR 27—January 1965.
2. *School Boards Plan for Civil Defense*, MP 31—August 1965.
3. *Schools Built With Fallout Shelter*, TR 33—February 1966.
4. *Publications Index*, MP 20, latest edition.

The best procedure for obtaining the publications of the Office of Civil Defense is to contact the local Director of Civil Defense. Where there is no local CD Office, request should be made of the County or State CD Director.

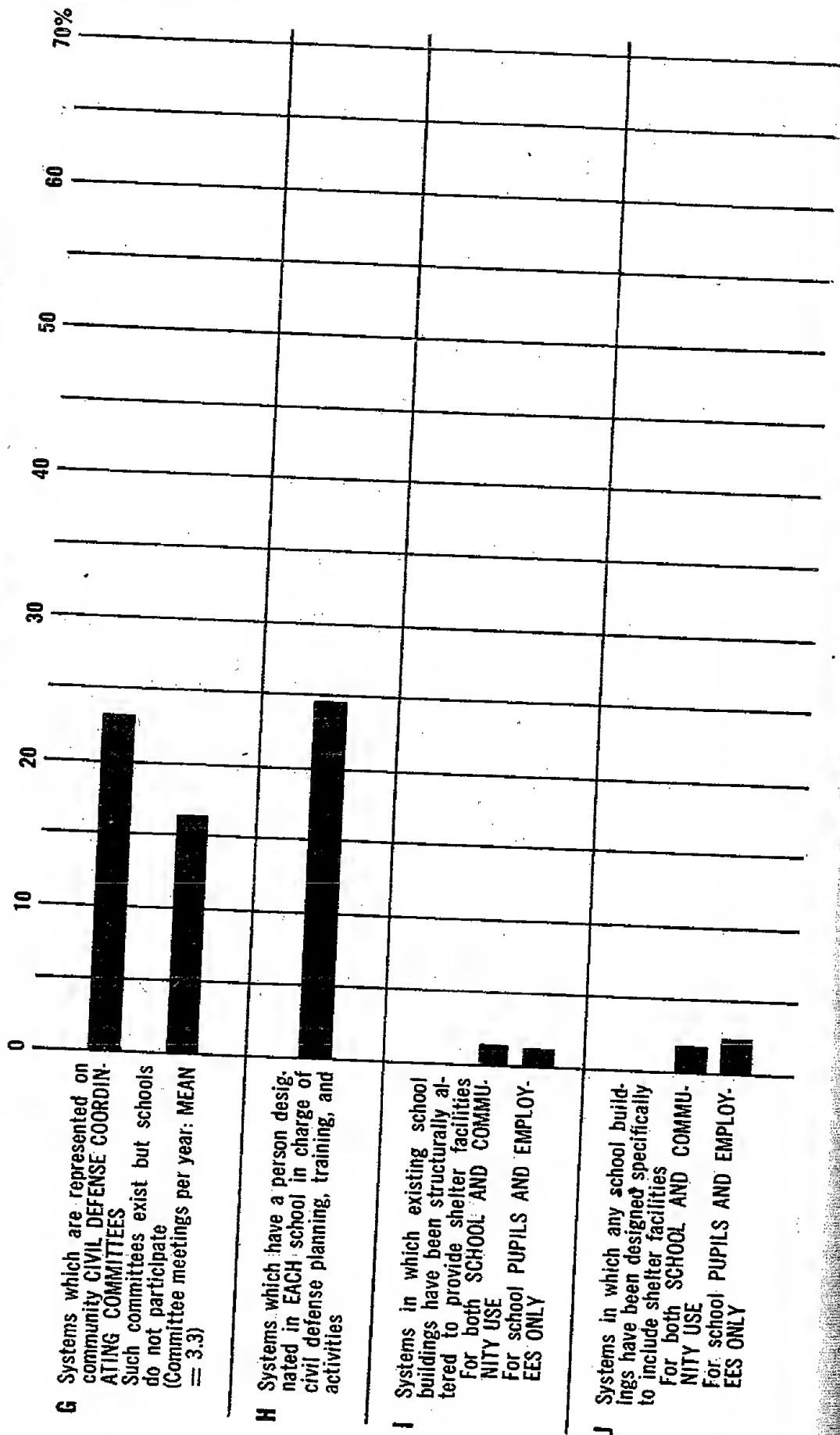
Titles, sources, and availability of OCD publications are given in the *Publications Index* listed above.

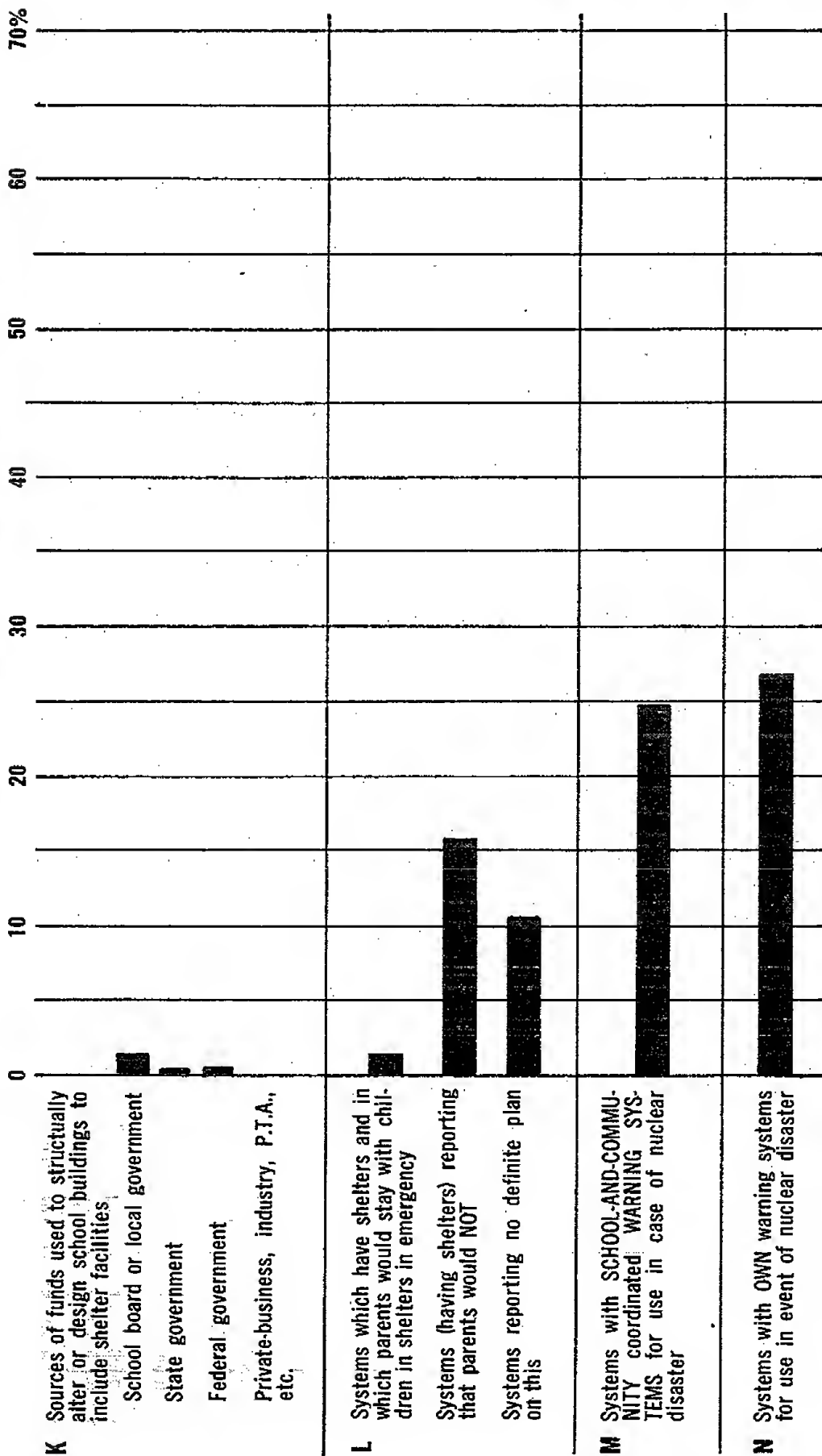
Appendix (8 pages of graphs) follows.



# 34 QUESTIONNAIRE ITEMS

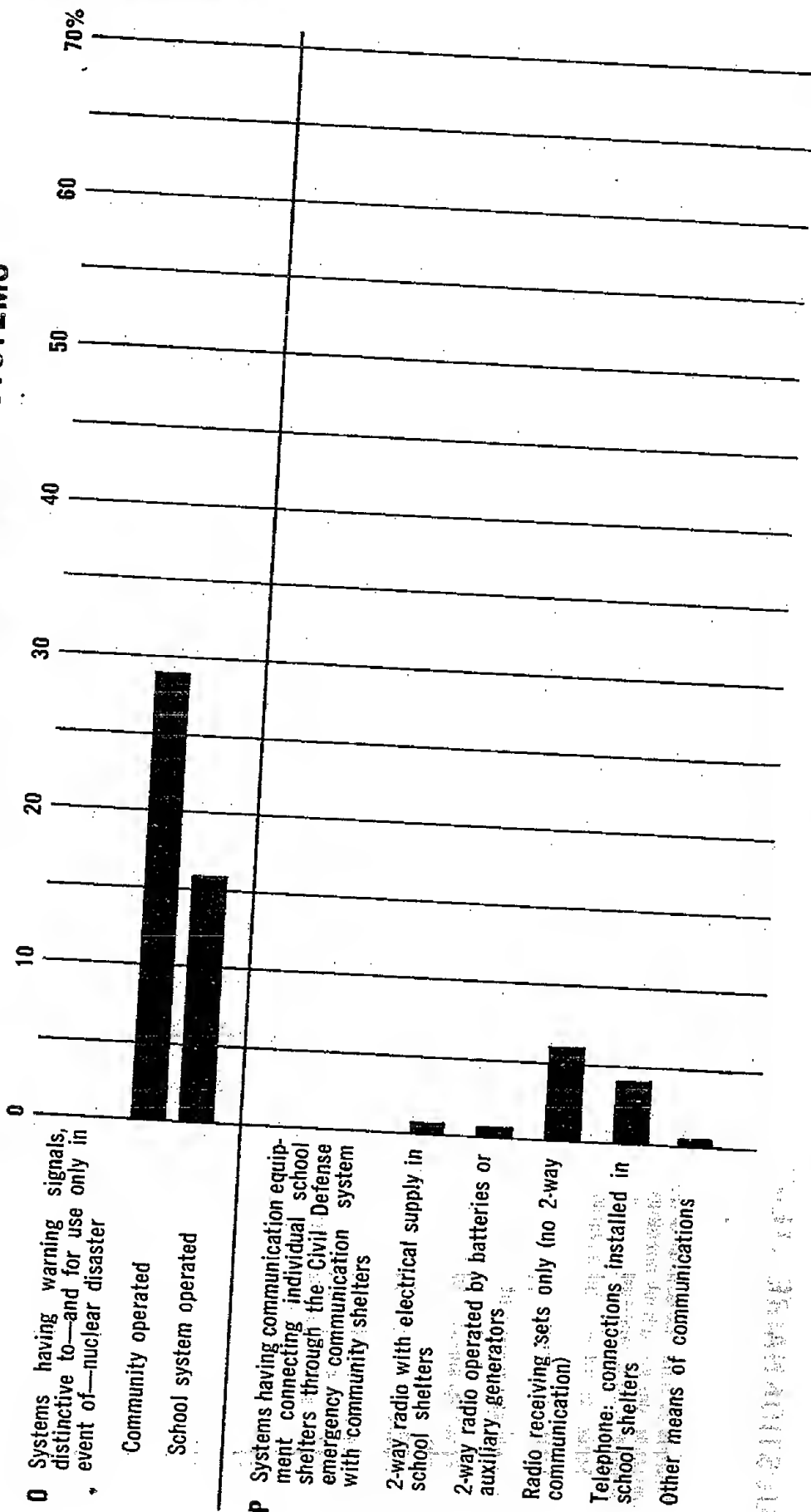
## PERCENT OF ALL SCHOOL SYSTEMS



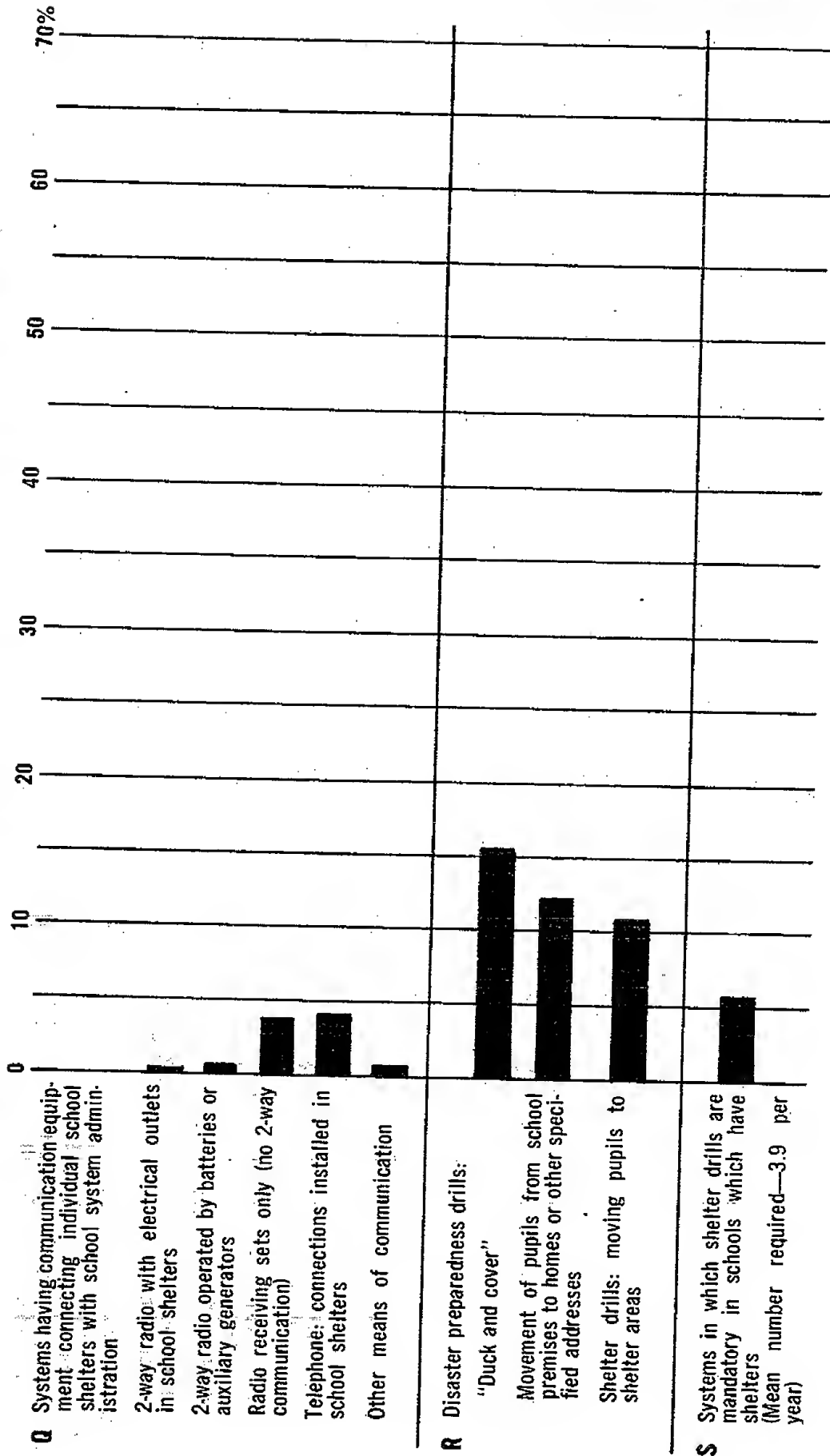


# QUESTIONNAIRE ITEMS

## PERCENT OF ALL SCHOOL SYSTEMS

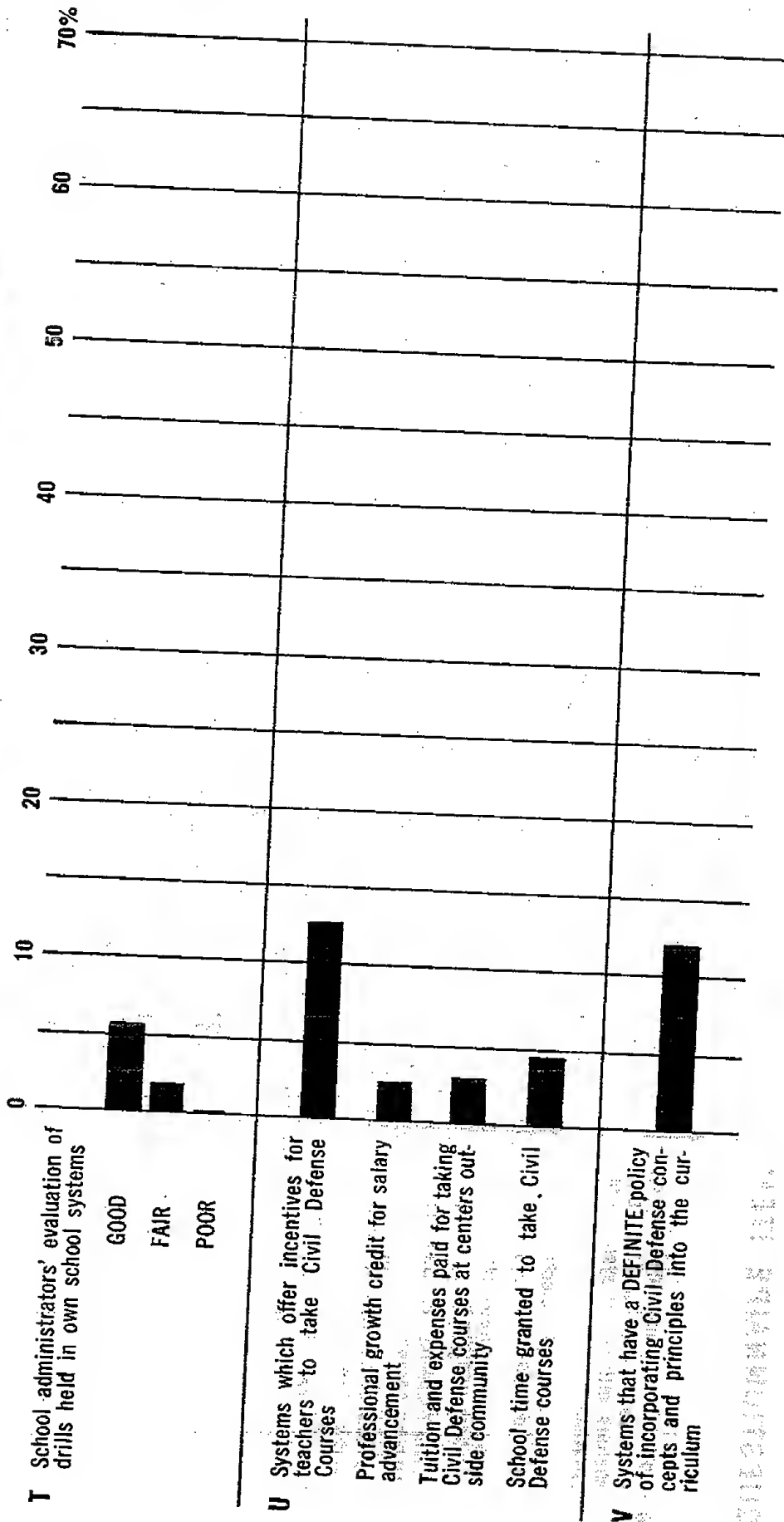


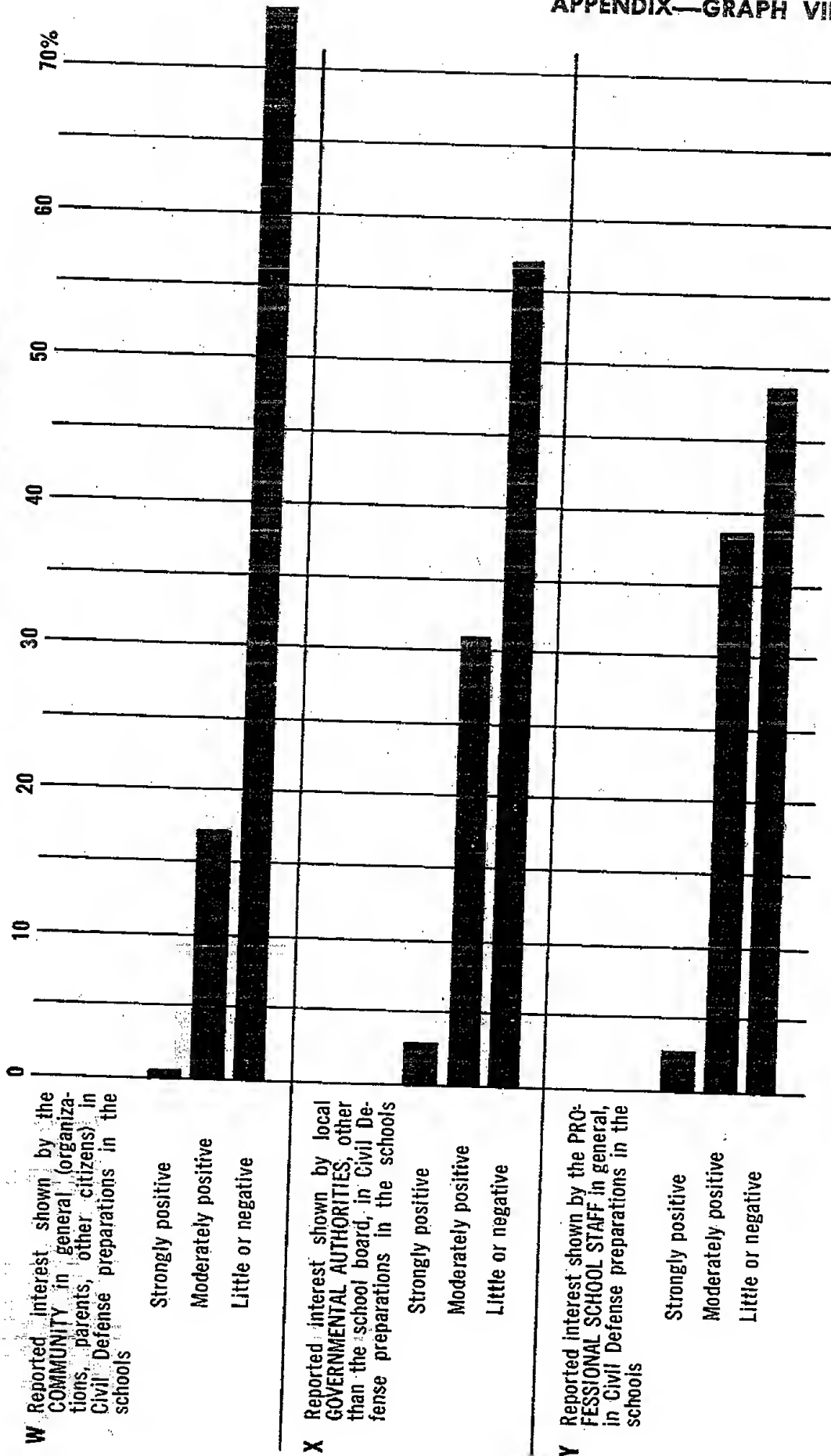




# QUESTIONNAIRE ITEMS

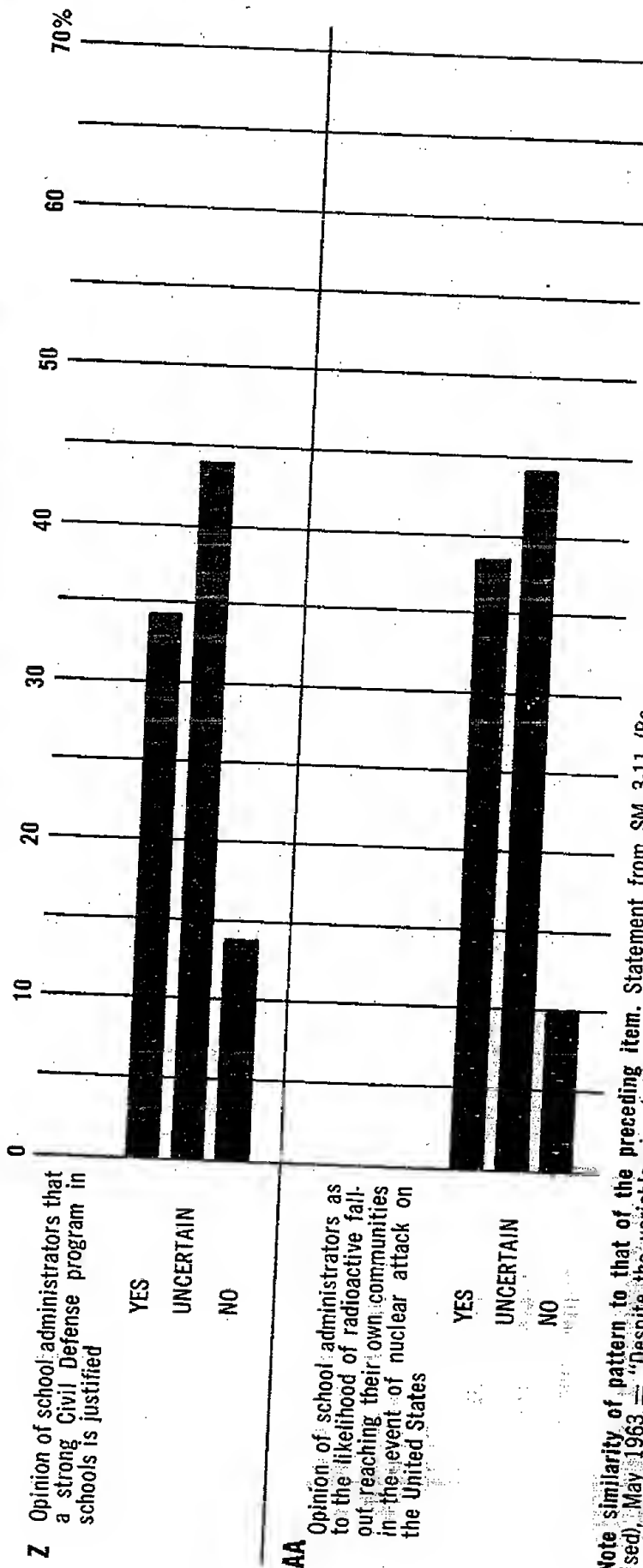
## PERCENT OF ALL SCHOOL SYSTEMS





# QUESTIONNAIRE ITEMS

## PERCENT OF ALL SCHOOL SYSTEMS



(Note similarity of pattern to that of the preceding item. Statement from SM 3-11 (Revised), May 1963 — "Despite the variables involved, fallout would threaten virtually all of the area of the United States." Also note the ever-increasing capability of the potential enemies of this Nation. It may be assumed from these trends of opinion vs. known data, from the divergence of opinion ("Yes" vs. "No" above), and from the large proportion of "uncertain," that factual information is lacking among this key group as far as nuclear disaster is concerned).

**Distribution:**

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State CD Adult Education Coordinators.